

Message

From: Burdett, Cheryl [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E8F84378969242DBA5EB260C1CC89FB8-CBURDETT]
Sent: 5/16/2018 4:31:26 PM
To: Swanson, Karen [swanson.karen@epa.gov]
Subject: RE: Petenwell groundwater

Hi Karen:

Thank you for all your help searching for documents of groundwater flow into Petenwell Lake.

Sincerely,

Cheryl Burdett

From: Swanson, Karen
Sent: Wednesday, May 16, 2018 11:01 AM
To: Burdett, Cheryl <burdett.cheryl@epa.gov>
Subject: Petenwell groundwater

Cheryl,

- I emailed the librarian at the University of Wisconsin, Aquatic Sciences Center, Wisconsin Water Library to see if she had anything in her collection to help answer your question. In turn, she emailed the state hydrogeologist. He replied:

"Castle Rock and Petenwell are primarily surface water, being impoundments of the Wisconsin River. But both also receive groundwater discharge. I'm not sure anyone has ever calculated the groundwater budgets for these flowages, though it could be done based on the water table maps. For example, I have attached the water table map for Adams County. The water table slopes toward Petenwell along the left side of the map, so there would be groundwater discharge to the lake all along its eastern shore. But, on the south side, near the dam, the water table slopes away from the lake, so the lake loses water to groundwater there. Overall, I'd say the groundwater component is small compared to the surface water component of the water budget."

The plate he refers to is MP81-1-plate01, which I've linked below. However, I think you are looking for Juneau County, so I've linked that one as well.

Map, Plate 1: Water Table Map of Adams County
Author(s): Lippelt, I.D.
Product #: MP81-1-plate01
https://wgnhs.uwex.edu/pubs/download_mp811plate01/

Map, Plate 3: Water Table Map of Juneau County
Author(s): Lippelt, I.D.
Product #: MP81-1-plate03
https://wgnhs.uwex.edu/pubs/download_mp811plate03/

Irrigable Lands Inventory—Phase I Groundwater and Related Information (*Wisconsin Geological and Natural History Survey*)
<https://wgnhs.uwex.edu/pubs/000467/>

introductory information from *Irrigable Lands Inventory--Phase I Groundwater and Related Information*

Author(s): Lippelt, I.D., Hennings, R.G.

Product #: MP81-1

https://wgnhs.uwex.edu/pubs/download_mp811/

The following two USGS publications might also be useful:

- *Water resources of Wisconsin--central Wisconsin River basin, Hydrologic Atlas 367:*
<https://pubs.er.usgs.gov/publication/ha367>
You may want to take a look at all four plates, but plate 3 is specific to groundwater.
- *Ground Water Atlas of the United States: Segment 9: Iowa, Michigan, Minnesota, Wisconsin:*
<https://pubs.usgs.gov/ha/730j/report.pdf>
This takes a while to load. See page J22+. Link to the main report: <https://water.usgs.gov/ogw/aquifer/atlas.html>

I hope this helps.

Karen Swanson

Karen Swanson

Supervisory Librarian (contractor with Arctic Slope Mission Services)

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From: Burdett, Cheryl

Sent: Tuesday, May 15, 2018 3:28 PM

To: Swanson, Karen <swanson.karen@epa.gov>

Subject: RE: follow-up question

Correct- Groundwater

Cheryl Burdett

From: Swanson, Karen

Sent: Tuesday, May 15, 2018 3:16 PM

To: Burdett, Cheryl <burdett.cheryl@epa.gov>

Subject: follow-up question

Cheryl,

You are specifically interested in ground water flow into Petenwell Lake, NOT surface water, correct?

Karen

Karen Swanson

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